CLAIMS

1. Device enabling different spreading factors whilst preserving a common scrambling code, in particular for transmission in a code division multiple access cellular mobile radio system, the device including, on transmission, scrambling means for applying a scrambling code of length Q_{MAX} which is a multiple of said different spreading factors , to blocks of Q_{MAX} basic symbols obtained by spreading by means of any of said spreading factors.

2. Device according to claim 1, including, on transmission, for spreading K incoming sequences by means of K respective spreading codes of respective length Q_k (k=1, ..., K) which is a sub-multiple of a maximum length Q_{MAX}, and scrambling the spread sequences obtained in this way:

    • means for grouping the various data symbols of the kth incoming sequence (k=1, ..., K) into different blocks of Q_{MAX}/Q_k symbols,

    • means for spreading the different blocks from the kth incoming sequence (k=1, ..., K) by means of the corresponding code of length Q_k to obtain a spread sequence including different spread blocks of length Q_{MAX},

    • means for scrambling each of the K spread sequences obtained in this way using a scrambling code of length Q_{MAX}.

3. Device enabling different spreading factors whilst preserving a common scrambling code, in particular for transmission in a code division multiple access cellular mobile radio system, the device including, on

reception, descrambling means for applying a scrambling code of length Q_{MAX} which is a multiple of said different spreading factors , to blocks of Q_{MAX} basic symbols obtained by spreading by means of any of said spreading

5   factors.

4. Device according to claim 3, including, on reception, for descrambling and despreading an incoming sequence by means of K respective spreading codes of

10   respective length Q_k (k=1, …, K) which is a sub-multiple of a maximum length Q_{MAX}:

• means for descrambling said incoming sequence using a scrambling code of length Q_{MAX},

• means for grouping the basic symbols of the spread

15   and descrambled sequence obtained in this way in different spread blocks of length Q_{MAX},

• means for despreading the spread blocks obtained in this way by means of K respective codes to obtain K despread sequences formed of different blocks of Q_{MAX}/Q_k

20   symbols (k=1, …K).

5. A mobile station for a mobile radiocommunication system, comprising a device according to ~~any of claims 1~~ Claim 1 ~~to 4~~.

25   6. An entity, in particular base transceiver station, for a mobile radiocommunication system, comprising a device according to ~~any of claims 1 to 4~~ Claim 1.